

ICS 27.160
CCS K 83



**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 29195-2025

Replacing GB/T 29195-2012

**General specification for terrestrial crystalline silicon
photovoltaic cells**

地面用晶体硅光伏电池总规范

Issued on: December 31, 2025

Implemented on: July 1, 2026

**Issued by: State Administration for Market Regulation;
Standardization Administration of the PRC**

Table of Contents

1.Scope	1
2 Normative References	1
3.Terms and Definitions	1
4 Requirements	1
4.1 Structure	1
4.2 Mechanical Properties	2
4.3 Electrical Performance	3
5.Test Methods	3
5.1 Structural Inspection	3
5.2 Mechanical Properties	3
5.3 Electrical Performance	4
6.Inspection Rules	4
6.1 Inspection Classification	4
6.2 Type Testing.....	4
6.3 Delivery Inspection	6
7.1 Mark	6
7.2 Packaging	6
7.3 Storage	6
7.4 Transportation	7
7 References	8

Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1.Structure and Drafting Rules of Standardization Documents". Drafting. This document replaces GB/T 29195-2012 "General Specification for Crystalline Silicon Solar Cells for Terrestrial Use". Compared with GB/T 29195-2012, except for... Aside from structural adjustments and editorial changes, the main technical changes are as follows:

---The scope has been changed (see Chapter 1, Chapter 1 of the.2012 edition);

---The terms "electroluminescence" and "automated optical inspection" and their definitions have been added (see Chapter 3);

---Removed inapplicable requirements. back aluminum foil (see

4.1.2 in the.2012 version), requirements for polycrystalline silicon cells (see.2012 version). (See Table 1 of the previous edition), the thermal cycling section (see

4.4 of the.2012 edition);

---Added requirements. Requirements for typical square cell dimensions of monocrystalline silicon solar cells, such as 166mm, 182mm, and 210mm (see...) 4.1.1), battery bending strength (see 4.2.4), bifaciality, bifacial illumination and other electrical performance parameters of bifacial cells (see 4.3.1), photothermal properties. Induced decay (see 4.3.4);

---Added test methods. Test method for battery bending strength (see 5.2.4), bifaciality of bifacial batteries, bifacial illumination, etc. Test methods for performance parameters (see 5.3.1), and test methods for photothermal induced degradation (see 5.3.4);

---The thermal cycling test (see

5.4 in the.2012 edition) has been deleted, and corresponding deletions have been made in Table 2;

---The test method content has been revised. the test method for electrode adhesion strength and electrode-solder joint tensile strength (see 5.2.2,.2012 version). 5.2.2), Test method for solderability of battery electrodes (see 5.2.5,

5.1.1.3 of the.2012 edition), Test method for light-induced degradation ratio of batteries. (See 5.3.3,.2012 edition of 5.3.3);

---The inspection rules have been revised. the test content and flowchart for type testing (see 6.2,.2012 version 6.2), and the test content for acceptance inspection. Test content (see 6.3,.2012 edition of 6.3). Please note that some content in this document may involve patents. The issuing organization of this document assumes no responsibility for identifying patents. This document was proposed by the Ministry of Industry and Information Technology of the People's Republic of China. This document is under the jurisdiction of the National Technical Committee on Standardization of Solar Photovoltaic Energy Systems (SAC/TC90). This document was drafted by: Canadian Solar Inc., China Electronics Technology Standardization Institute, and LONGi Green Energy Technology Co., Ltd. Joint-stock company, Tongwei Solar (Chengdu) Co., Ltd., Yangzhou Canadian Solar Cell Co., Ltd., Jiangsu Runyang New Energy Technology Co., Ltd. Limited Liability Company, Di'er Laser Technology (Wuxi) Co., Ltd., Yidao New Energy Technology Co., Ltd., JA Solar (Yangzhou) Solar Technology Co., Ltd. Limited Company, Wuxi Inspection, Testing and Certification Institute. The main drafters of this document are. Zhang Guangchun, Wu Jian, Li Zhenguo, Pei Huichuan, Chen Xiaoda, Tong Hongbo, Jiang Fangdan, Xu Tao, Chen Rulong, and Lu Hongyan. Xu Xingxing, Zhang Junbing, and Wang Meijuan. The release history of this document and the document it replaces is as follows:

1 Scope

GB/T 29195-2025 is the Chinese national standard covering the silicon cell before it becomes a module - the electrical parameters and their measurement, the appearance and mechanical requirements, the classification into power bins and the sampling by which a delivery is accepted. It replaces GB/T 29195-2012. It was issued on 31 December 2025 and has been in force since 1 July 2026, replacing GB/T 29195-2012. The document is under the responsibility of the Ministry of Industry and Information Technology. This page is published from the official record of the 2025 edition; the clause text of a standard this recent is not yet in circulation, and the figures, limits and tables it contains are those of the document itself, delivered in full with the English translation.

This document specifies the requirements for terrestrial crystalline silicon photovoltaic cells, including inspection rules, marking, packaging, storage, and transportation requirements. Experimental methods. This document applies to ground-based monocrystalline silicon photovoltaic cells; other types of crystalline silicon photovoltaic cells can refer to this document for further information.

2 Normative references

The contents of the following documents, through normative references within the text, constitute essential provisions of this document. Dated citations are not included. For references to documents, only the version corresponding to that date applies to this document; for undated references, the latest version (including all amendments) applies. This document.

GB/T 191 Packaging and Storage Graphic Symbols

GB/T 2297 Terminology for Solar Photovoltaic Energy Systems

GB/T 6495.1 Photovoltaic devices - Part

3 Terms and Definitions

The terms and definitions defined in GB/T 2297 and the following terms and definitions apply to this document.

3.1 Electroluminescence; EL Light emission is caused by the radiative recombination of excited carriers when a forward bias is applied to a semiconductor device. [Source: GB /Z 46984.2-2025, 3.1]

3.2 The process of using computer vision technology to detect and classify photovoltaic cells can be used to detect the appearance, color, and other characteristics of products.

4.1 Structure

4.1.1 Dimensions Typical dimensions of photovoltaic cells should conform to the specifications in Table 1; other dimensions of photovoltaic cells should conform to the product specification sheet.

chinastandards.org · PREVIEW